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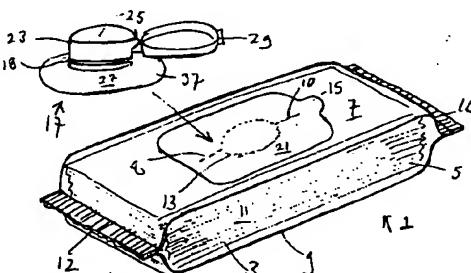
(54) Package for tissues comprising a flexible pouch and a re-usable dispensing device

(57) The invention relates to Package (1) comprising:

ability due to contamination. Furthermore, the dispensing device aids in dispensing of the tissue by frictionally engaging the tissues.

- a flexible pouch (3) containing a stack of tissues (5), the pouch comprising a top surface (7), a bottom surface (9), a side surface (11, 12, 14), a pre-formed first dispensing aperture (13) in the top surface and a cover member (15) covering the first dispensing aperture, and
- a relatively rigid re-usable dispensing device (17) comprising attachment means (18, 33, 35, 37, 40, 41, 43, 45, 47, 55, 56, 59, 60) for releasable attachment to the pouch, characterised in that the cover member (15) is completely removable from the first dispensing aperture (13), the top surface (7) of the pouch comprising a sealing area (21), which sealing area forms a substantially closed contour around the first dispensing aperture (13), the dispensing device (17) comprising
- a base member (23, 39, 47, 56, 58) having a second dispensing aperture (25, 46, 49, 50),
- a connecting area (27, 47, 56, 58) for sealingly engaging the sealing area (21) of the pouch, and
- a closure member (29, 32, 36, 38, 51, 55, 60) for sealingly closing the second dispensing aperture (25, 46, 49, 50) by contacting the base member (23, 47, 56, 58).

By means of the dispensing device, the flexible pouch can be properly sealed without a loss of function-



Description**Field of the Invention**

The invention relates to a package comprising

- a flexible pouch containing a stack of tissues, the pouch comprising a top surface, a bottom surface, a side surface, a pre-formed first dispensing aperture in the top surface and a cover member covering the first dispensing aperture, and
- a relatively rigid re-usable dispensing device comprising attachment means for releasable attachment to the pouch.

The invention also relates to a re-usable dispensing device and to a flexible pouch for use in such a package.

Background of the Invention

A flexible package and a re-usable dispensing device are known from the European patent EP-B-0 251 103. In this document a flexible pouch is disclosed containing moist or wet wipes. The pouch comprises a pre-formed dispensing aperture and an adhesive label that is on one end permanently attached to the pouch, for repeatedly opening and closing of the pouch. To support the shape of the pouch, even when the pouch is almost empty, and to allow proper closure of the pouch's adhesive label, the pouch is connected to a shape-retaining member. The shape-retaining member may be in the form of a cardboard container or of a clamping frame fitting around the side surfaces and the top surface of the pouch.

The above system has as a disadvantage that the adhesive closure of the flexible pouch by the adhesive label, will not always be liquid-tight. When the pouch is transported, the pouch may be squeezed in the user's luggage or may be transported with the dispensing aperture in an upside-down position. Leakage through the aperture along the adhesive label may take place.

Furthermore, the adhesive closure of the pouch is subject to contamination, for instance by baby powder or lotion. The known adhesive labels lose their adhesive closing power when contacted by those substances.

Finally, a re-closable adhesive label requires special attachment means for permanently attaching a part of the label to the pouch, a re-fastenable adhesive and a release surface on the pouch from which the adhesive can easily be detached.

It is an object of the present invention to provide a flexible package containing tissues and a re-usable dispensing device that allows easy dispensing and reliable sealing of the pouch.

It is another object of the invention to provide a flexible package comprising wet wipes and a re-usable dispensing device that provides a liquid-tight sealing of the pouch.

It is another object of the present invention to provide a closure on a flexible pouch which is resistant against contamination.

It is a further object of the invention to provide a cost-effective pouch containing tissues of relatively simple construction.

Summary of the Invention

A package according to the invention comprises a cover member which is completely removable from a dispensing aperture in the pouch. The top surface of the pouch comprises a sealing area, which sealing area forms a substantially closed contour around the first dispensing aperture in the top surface of the pouch. A re-usable dispensing device of relatively rigid material is provided that comprises:

- a base member having a second dispensing aperture,
- a connecting area for sealingly engaging the sealing area of the pouch, and
- a closure member for sealingly closing the second dispensing aperture by contacting the base member.

By providing a separate closure of rigid material on the dispensing device, consisting of the base member and the closure member, or lid, which dispensing device is attached to the dispensing aperture of the flexible pouch, a proper sealing of the dispensing aperture in the pouch is achieved. As the cover member of the flexible pouch can be completely removed from the dispensing aperture in the pouch, this cover member can be of simple construction. In case the pouch comprises dry tissues, the cover member can be formed by a closed line of weakening in the top surface of the pouch. After removal of the cover member, the dispensing device seals the aperture and prevents dust or dirt from entering into the opened pouch. In case the dry tissues are scented, the closure formed by the dispensing device prevents the perfume of the tissues from evaporating.

In case the pouch comprises moist or wet tissues, the cover member comprises an adhesive label, which is completely removable from the pouch. In such a case, no special measures for permanently fixing one part of the label to the pouch are necessary. Furthermore, no re-fastenable adhesive needs be employed on the label of the pouch.

The rigid, non-adhesive nature of the dispensing device allows proper liquid-tight closure of the dispensing device which is not subject to contamination.

An embodiment of a package according to the invention comprises a flexible pouch having at least two slits through the top surface of the pouch in the vicinity of the first dispensing aperture. The slits are preferably covered by the cover member, such as the adhesive label, before use, and are uncovered on first-time use of

the pouch. The dispensing device comprises two protrusions that extend generally in the direction of the top surface of the pouch upon insertion through the slits and for clampingly engaging the top surface of the pouch upon rotation of the dispensing device. The dispensing device can be easily screwed into the flexible pouch to provide a sealing closure between the base member of the dispensing device and the pouch material.

Another embodiment of a package according to the invention comprises a dispensing device having a flange comprising an outer radius that extends beyond the perimeter of the dispensing aperture of the pouch after insertion therein. The flexible nature of the pouch will allow the flange of the dispensing device, despite its larger radius than the dispensing aperture, to be inserted into the dispensing aperture and to be retained therein. Preferably an annular ridge of similar dimensions as the dispensing aperture is attached to the flange and extends in a direction perpendicular to the top surface of the pouch. The annular ridge may comprise a circumferential groove for sealingly engaging with the edge of the dispensing aperture. The rigid annular ridge will frictionally engage with the towels upon dispensing and will help the towels to unfold when pulled from the package.

In again another package according to the invention, the dispensing device is formed by a generally U-shaped clamp comprising a lower member for engaging with the bottom surface of the pouch, a transverse member and the base member attached to the transverse member. Upon use, the pouch is clamped between the base member and the lower member. Due to the resilient clamping force of the U-shaped member, the base member of the dispensing device is sealingly engaged with the top surface of the pouch. Even when the caliper of the pouch is decreased upon emptying of the pouch, a sealing engagement of the base member with the top surface can be maintained. For this purpose, the transverse member may be provided with a hinge to accommodate dimensional changes of the pouch upon dispensing of the wet wipes, or tissues, by allowing the lower member to approach the base member of the U-shaped dispensing device. The same effect can be obtained by providing an elastic member for contractively engaging with the bottom surface of the pouch.

In again another embodiment, the flexible pouch comprises a sealable slit in one of the side faces or the top face, through which a base plate of dispensing device can be inserted between the tissues and the top surface of the pouch. The dispensing device comprises a plug which, upon closing of the dispensing device, is inserted into the aperture in the top surface of the pouch and into the underlying aperture of the base plate. The top surface of the pouch is sealingly clamped between the plug and the base plate. Such a dispensing device can be easily applied to the pouch by a user.

In again another embodiment of a package according to the invention, the dispensing device forms a rigid, top-half of a container which has no bottom surface. The pouch material forms the flexible, lower half of this container.

For proper sealing, the sealing area of the pouch may be coated with a pressure sensitive adhesive for attaching the connecting area of the dispensing device in a sealing manner to the top surface of the pouch.

Before use, the sealing area may be covered by the adhesive label which covers the dispensing aperture in the top surface of the pouch.

Brief Description of the Drawings

The invention will be described in detail with reference to the accompanying drawings. In the drawings:

Figure 1 shows a perspective view of a package according to the invention prior to attachment of the dispensing device to the flexible pouch,
Figure 2 shows a perspective view of a package wherein the dispensing device is attached to the pouch,
Figure 3 shows a cross-sectional view of a package wherein the dispensing device comprises a flange and the pouch comprises a reinforcement layer,
Figure 4 shows an embodiment of a dispensing device having a rotating closure member,
Figure 5 shows an embodiment of a dispensing device having a sliding closure member,
Figure 6 shows a perspective view of a screw-type dispensing device,
Figure 7 shows a section of the top surface of the flexible pouch for attachment to a dispensing device as shown in figure 6,
Figure 8 shows a package wherein the pouch comprises a sealable slit in one of its side surfaces,
Figures 9 and 10 show a dispensing device covering the top surface and parts of the side surfaces of the flexible pouch, and
Figures 11 and 12 show a clamp-like dispensing device in a detached state and after attachment to the pouch, respectively.

Detailed Description of the Invention

Figure 1 shows a package 1 comprising a flexible pouch 3 and a re-usable dispensing device 17. The flexible pouch 3 contains a stack of tissues, such as wet wipes 5, and is closed by a cover member which is formed in this case by an adhesive label 15. The adhesive label 15 overlies a pre-formed dispensing aperture 13 which may be formed by a cut or a line of weakening in the top surface 7 of the pouch 5. After opening of the pouch 5 by completely removing the label 15, the dispensing device 17 can be inserted in the dispensing aperture 13, as shown in figure 2. The wet wipes 5 can

be dispensed through the dispensing device 17, which can be sealingly closed by the closure member 29.

The term "wet wipes" is intended to mean any tissues, towels or sheets of fibrous material having a moisture content of at least 50 % by weight. The fibers may be of natural origin, such as cellulosic fibers or may be synthetic fibers or combinations thereof. Preferred tissues comprise a blend of 50 % polypropylene and 50 % viscose fibers as available from Suominen (P.O. Box 25, 29251 Nakkila, Finland under the trade name Fibrella 3100G2.). The moisture contained in the tissue 5 may be a water based lotion comprising for instance 95 % by weight of water and comprising skin care components, stabilisers, cleaning agents and perfume.

The tissues in the pouch 3 may also be "dry" tissues, i.e. tissues which have moisture contents below 50 % by weight.

Instead, of or in addition to moisture, the tissues may be loaded with liquid or solid materials such as abrasive particles or furniture polish. The pouch 3 is made of a flexible material. The term "flexible" is intended to mean a sheet material which is deformed upon insertion of the dispensing device, by stretching or folding or otherwise giving way. Suitable sheet materials for making a flexible pouch are homogeneous films or laminates of Polyethylene, Polypropylene, Polyethylene terephthalate, Aluminum and combinations thereof, of a thickness between 12 and 100 microns. Flexible pouches 3 can be cheaply produced from a continuously moving web of pouch material by first cutting the pre-formed dispensing apertures 13 in the continuous web of material, then attaching the adhesive labels 15 over the pre-formed dispensing apertures, placing a stack of wet wipes on the web, folding the web along a longitudinal fold line into a tubular arrangement enwrapping the wipes. Thereafter a longitudinal seam is formed in the overlapping pouch material and the front and back side surfaces 12 and 14 are heat sealed and cut. In case the pouch contains dry tissues, the adhesive label can be omitted, the dispensing aperture being formed by a line of weakening or perforations in the pouch material.

The dispensing aperture 13 can be formed by a closed cut and by removing the pouch material inside the cut. In a preferred embodiment, the pouch material remains present inside the closed cut line, and is attached to the adhesive label 15. In this way, the adhesive surface of the label 15 does not touch the surface of the topmost wipe, and a liquid-tight sealing of the pouch before first time use is warranted. It is important that upon opening, only the pouch material within the dispensing aperture 13 is removed and that the pouch material in the vicinity of the dispensing aperture is not torn or damaged. The top surface of the pouch surrounding the dispensing aperture in this way forms a sealing area 21 for contacting the re-usable dispensing device. The term "sealing area" is intended to mean a substantially continuous area of the top surface of the pouch surrounding the dispensing aperture. A pair of

cut lines 8 and 10 may be provided to facilitate insertion of the re-usable dispensing device 17.

A suitable adhesive on the label 15 is available from MacTac Europe S.A., Bd. Kennedy, B-7060 Soignies, Belgium under type number MacTac MP 318 and Mac-Tac MR 980. The label 15 does not have any permanent attachment areas, such that it can easily be removed from the top surface 7 of the pouch 3. The label 15 may comprise an adhesive which upon removal of the label 15 remains attached to the sealing area of the top surface of the pouch such that a dispensing device can be attached to the adhesive for providing a sealing closure between the pouch material and the dispensing device.

The re-usable dispensing device 17 is relatively rigid. The term "rigid" is intended to mean that the shape of the dispensing device is substantially unaltered upon insertion of the device into the package and/or upon opening and closing of the device. However, more or less flexible parts may be provided on the dispensing device for ease of insertion of the device into the dispensing aperture of the pouch. For instance, the dispensing device may comprise a flexible flange of thin plastic or rubber, which deforms upon insertion into the pouch to return to its original shape after attachment. Suitable dispensing devices can be made from a large variety of materials such as polyethylene or polypropylene by injection moulding, blow moulding or thermo forming and can have a wall thickness of between 0.5 mm and 1.0 mm.

The dispensing device 17 comprises attachment means, which in this embodiment are formed by a flange 37 and a circumferential groove 18, for attaching the device 17 to the sealing area 21 of the pouch. The flange 37 can be inserted through the dispensing aperture, the sealing area of the pouch being formed by the inner face of the top surface 7 in the vicinity of the dispensing aperture 13. The flange 37 forms a connecting area 27 on the dispensing device which contacts the sealing area 21 of the pouch 3. The dispensing device 17 comprises a base member 23, which in this case is formed by an annular ridge having a circumferential groove 18 for sealingly engaging with the perimeter of the dispensing aperture 13. The dispensing aperture 25 in the base member 23 can be covered by a closure member 29, such as a flip top cap.

Figure 3 shows a cross-sectional view of an embodiment wherein a reinforcement layer, such as insert member 52 of relatively rigid material is located below the top surface 7 of the pouch 3. The insert member may be formed by a layer of polyethylene of a thickness of between 0.7 mm and 1 mm, and sealingly engages with the circumferential groove 18 in the annular ridge of base member 23.

Instead of using a flip top cap 29 in the embodiment of figure 3 as a closure for the dispensing device 17, a fixed cap may be employed and the flange 37 may be omitted. In this manner a plug is formed which, upon dispensing of a tissue, can be removed in its entirety from the reinforcement member 52.

Figure 4 shows an embodiment wherein the closure member of the dispensing device 17 is formed by a rotatable member 32, located within the aperture of upstanding annular ridge 39. The member 32 can be rotated by operating a gripping notch 34. The dispensing device of figure 4 comprises a flange 40 and an annular groove 41.

Figure 5 shows a dispensing device 17 for engaging with a substantially rectangular dispensing aperture 13 in the top surface 7 of the pouch, and having two sliding closure members 36,38.

Figure 6 shows a dispensing device 17 comprising two protrusions 33 at the bottom of the base member 23. The protrusions 33 can be inserted into a pair of slits 30, 31 in the top surface 7 of the pouch, as shown in figure 7. Upon rotation of the dispensing device, the pouch material is clamped between the protrusion 33. The end part of each protrusion 33 may be provided with a notch which engages a hole 35, 40 in the pouch for keeping the dispensing device 17 in a fixed position and for preventing the device 17 from becoming detached from the pouch 3.

Figure 8 shows a pouch 3 having a slit 53 in its side surface 11. The slit 53 is covered by an adhesive label 57, which is permanently attached to the side surface 11 along a line of fusion 54. The dispensing device 17 comprises a flat base plate 56 having a dispensing aperture, and a plug 55, fitting in the dispensing aperture. Upon first time use of the pouch 3, the dispensing aperture 13 is uncovered, the label 57 is pulled back from the slit 53 and the base plate 56 is inserted through the slit 53 between the topmost wet wipe and the top surface 7 of the pouch. After that, the slit 53 is reclosed. In this embodiment, the attachment means for the dispensing device 17 are formed by the relatively large top of the plug 55 and the base plate 56. Upon insertion of the plug 55 into the base plate 56, the pouch material in the sealing area of the pouch is clamped between the top of the plug 55 and the base plate 56.

In an alternative embodiment, the base plate 56 may be inserted through a slit in the top surface 7 of the pouch 3. Again alternatively, the base plate 56 may be a disposable base plate which has been inserted in the pouch 3 by the manufacturer, the re-usable dispensing device only comprising the re-usable plug 55.

Figures 9 and 10 show an embodiment of a flexible pouch 3 according to the invention, wherein the dispensing device 17 is formed by a cover 58 which fits over the top surface 7 of the pouch 3. The sides 59, 60 of the cover 58 clamp the cover on the pouch and keep it in place. The sides 59, 60 may extend along the whole of the side surfaces of the pouch, such that the dispensing device forms the upper half of a rigid container, the bottom surface of the pouch forming the bottom half of the container. An adhesive area 61 may be located around the dispensing aperture 13 on the sealing area 21 of the pouch to sealingly contact the cover 58. A suitable adhesive is available from Findley Euro B.K., P.O. Box 180, 4700 AD Roosendaal, NL under type number

H-4031. Alternatively, mechanical fasteners such as Velcro® material may be used instead of adhesive 61 if liquid-tightness of the seal is not essential. As shown in figure 10, an elastic member 62 may be connected to the cover 58 to maintain a sealing contact between the top surface 7 and the cover when the height of the pouch 3 decreases upon emptying thereof.

Figures 11 and 12 show a dispensing device 19 which is formed by a U-shaped clamp 42. The clamp 42 comprises a lower member 43 and the base member 47 which extend perpendicularly to the transverse member 45. The free ends of the members 43, 47 are slightly curved towards one another to fit around the pouch 3. The base member 47 and the lower member 43 are flexible, and can be separated to fit around the pouch 3, as shown in figure 14. The base member 47 comprises a lid 51, which can sealingly be closed over the dispensing aperture 13. The flexible nature of the clamp construction presses the base member 47 against the underlying sealing area of the top surface 7 of the pouch 3, such that a sealing closure between the base member 47 and the pouch 3 is achieved.

A suitable material for the clamp 42 is polypropylene, polystyrene or polyester. A hinge 49 may be provided in the U-shaped clamp.

Claims

1. Package (1) comprising:

- a flexible pouch (3) containing a stack of tissues (5), the pouch comprising a top surface (7), a bottom surface (9), a side surface (11, 12, 14), a pre-formed first dispensing aperture (13) in the top surface and a cover member (15) covering the first dispensing aperture, and
- a relatively rigid re-usable dispensing device (17) comprising attachment means (18, 33, 35, 37, 40, 41, 43, 45, 47, 55, 56, 59, 60) for releasable attachment to the pouch, characterised in that the cover member (15) is completely removable from the first dispensing aperture (13), the top surface (7) of the pouch comprising a sealing area (21), which sealing area forms a substantially closed contour around the first dispensing aperture (13), the dispensing device (17) comprising
- a base member (23, 39, 47, 56, 58) having a second dispensing aperture (25, 46, 49, 50),
- a connecting area (27, 47, 56, 58) for sealingly engaging the sealing area (21) of the pouch, and
- a closure member (29, 32, 36, 38, 51, 55, 60) for sealingly closing the second dispensing aperture (25, 46, 49, 50) by contacting the base member (23, 47, 56, 58).

2. Package according to Claim 1 wherein the pouch comprises a stack of wet wipes, the cover member (15) comprising an adhesive label.

3. Package (1) according to claim 1 or 2 wherein the pouch (3) comprises at least two slits (30, 31) through the top surface (7) of the pouch in the vicinity of the first dispensing aperture (13), the slits being covered preferably by the cover member (15) before use, wherein the dispensing device (17) comprises two protrusions (33) that extend generally in the direction of the top surface (7) of the pouch after insertion through the slits (30, 31), and for clampingly engaging the top surface (7) of the pouch upon rotation of the dispensing device (17). 5

4. Package according to claim 1 or 2, wherein the dispensing device (17) comprises a flange (37, 40) comprising an outer radius extending beyond the edge of the first dispensing aperture (13) of the pouch (3) after insertion through the first dispensing aperture. 20

5. Package according to claim 4, wherein the base member of the dispensing device (17) comprises an upstanding annular ridge (23, 39) attached to the flange (37, 40), the ridge (23, 39) comprising a circumferential groove (18, 41) for receiving the edge of the first dispensing aperture (13). 25

6. Package according to claim 1 or 2, wherein the dispensing device (17) comprises a generally U-shaped clamp (42) comprising a lower member (43) for engaging with the bottom surface (9) of the pouch, a transverse member (45) and the base member (47) attached to the transverse member, the pouch (3) being clamped between the base member (47) and the lower member (43). 30

7. Package according to claim 6, wherein the transverse member (45) comprises a hinge (49) for adapting the distance between the lower member (43) and the base member (47). 40

8. Package according to any of the previous claims, wherein the pouch (3) comprises a reinforcement layer (52) located below the top surface (7) of the pouch for releasable attachment to the dispensing device (17), the reinforcement layer (52) comprising a further dispensing aperture which is coextensive with the first dispensing aperture (13) in the top surface (7) of the pouch (3). 45

9. Package according to claim 1 or 2, wherein at least one of the surfaces (7, 11, 12, 14) of the pouch comprises a sealable slit (53), the base member (56) being insertable between the wipes (5) and the top surface (7) of the pouch (3) through the slit (53). 50

10. Package according to claim 1 or 2, wherein the dispensing device comprises a base member (58) which is coterminous with the top surface (7) of the pouch and lateral sides (59, 60) which at least partly cover the side surfaces (11, 12, 14) of the pouch, the dispensing device not comprising a bottom surface for engaging with the bottom surface (9) of the pouch (3). 55

11. Package according to any of the previous claims, wherein the sealing area (21) of the pouch (3) comprises a layer of adhesive (61) surrounding the first dispensing aperture (13) for sealingly and releasably engaging the connecting area (27, 47, 56, 58) of the dispensing device (17).

12. Package according to any of the previous, wherein the dispensing device comprises an elastic element for contractively engaging the bottom surface (9) of the pouch (3).

13. Dispensing device (17) for use in the package according to any of the previous claims, comprising attachment means for releasable attachment to a flexible pouch, a base member having a second dispensing aperture, and a connecting area for sealingly engaging a sealing area of the pouch, and a closure member for sealingly closing the second dispensing aperture by contacting the base member.

14. Flexible pouch for use in the package according to any of claims 1 to 10, the pouch basis a top surface, a pre-formed dispensing aperture in the top surface and a cover member covering the dispensing aperture, the cover member being completely removable from the dispensing aperture and a sealing area forming a substantially closed contour around the dispensing aperture for releasable attachment to a substantially rigid dispensing device.

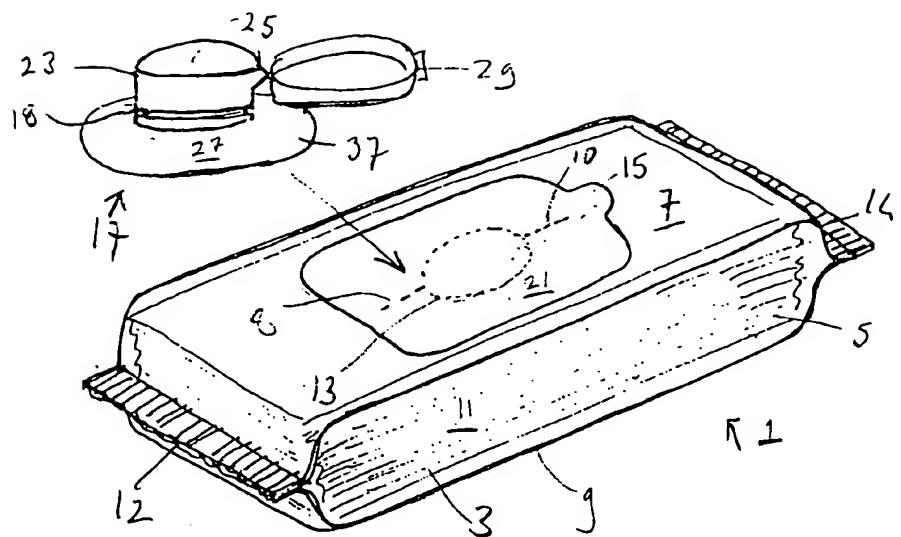


FIG1

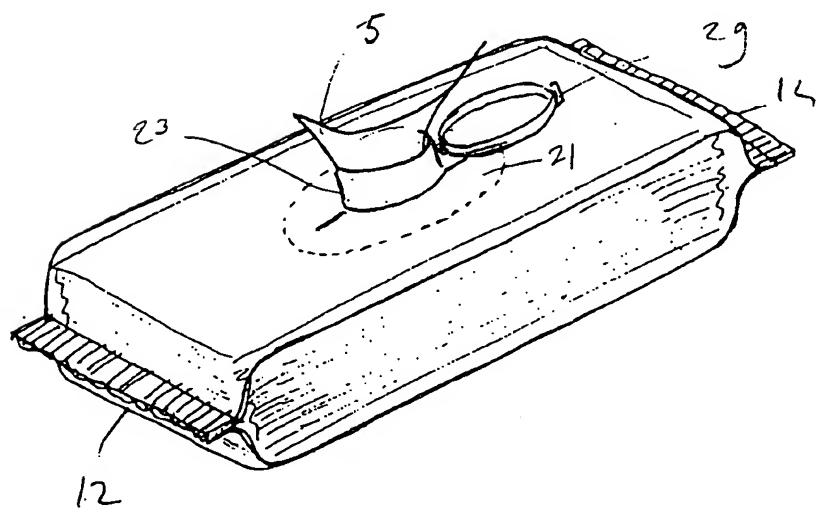
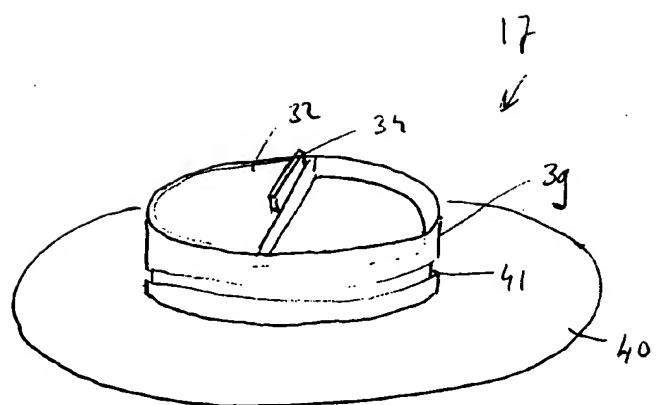
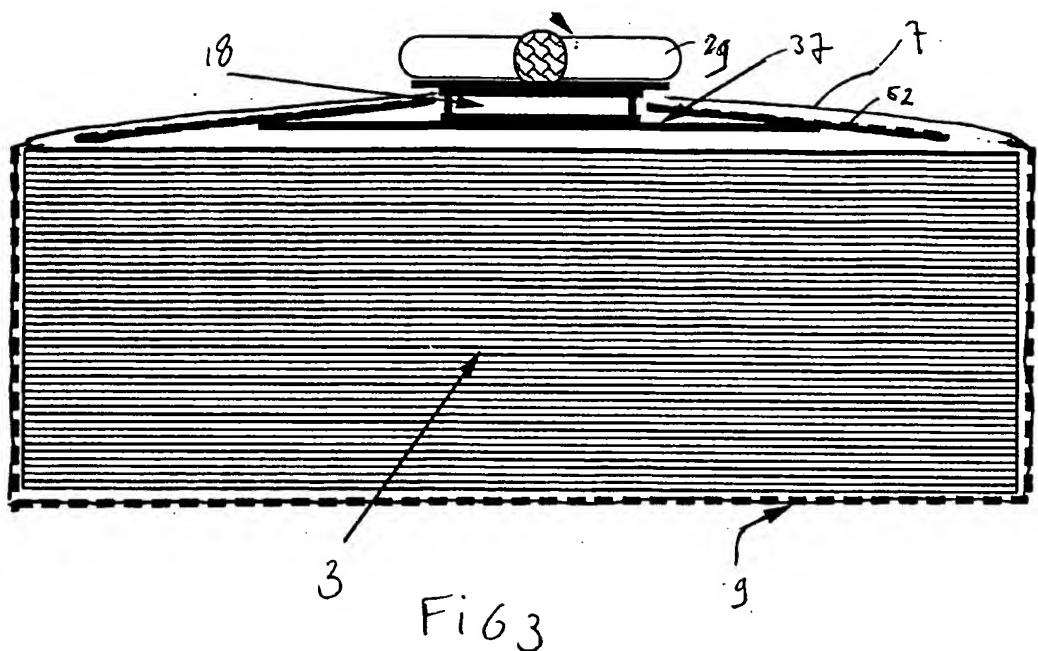
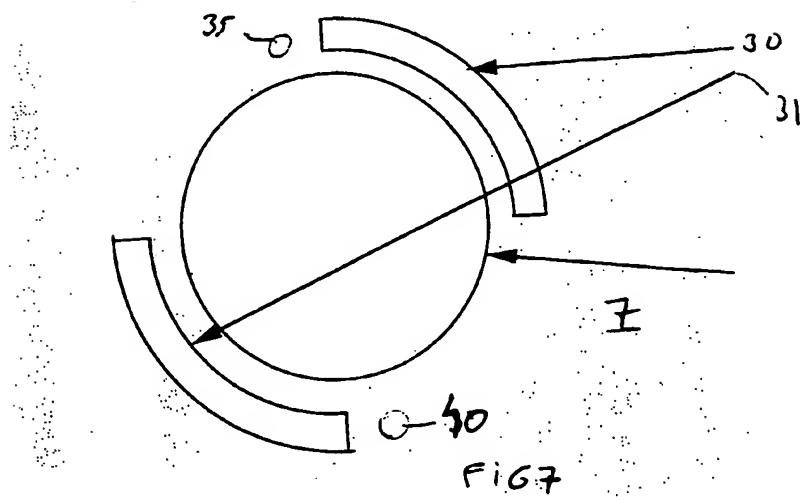
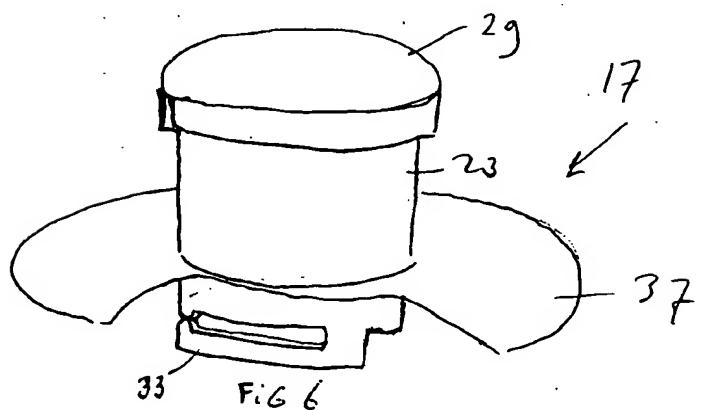
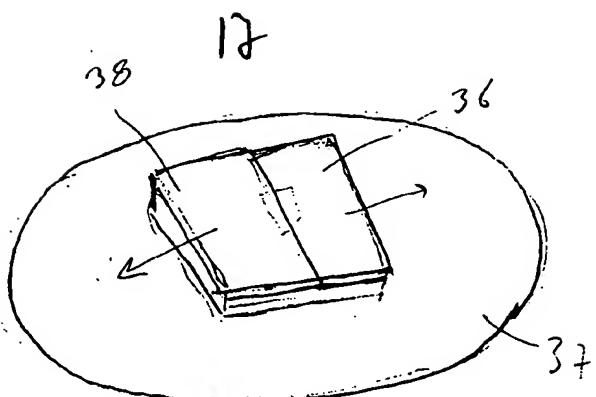


FIG2





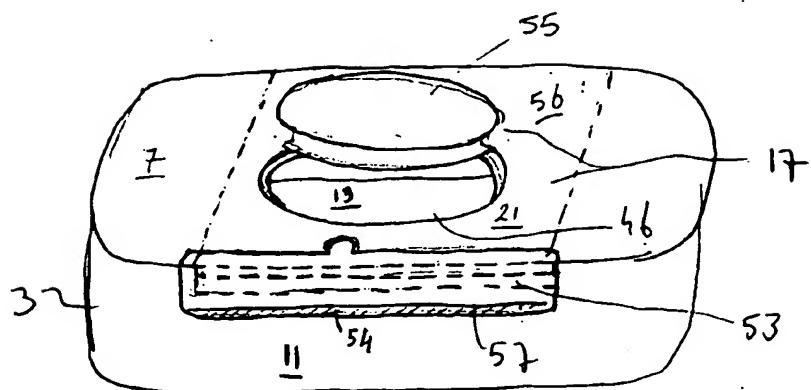


Fig. 8

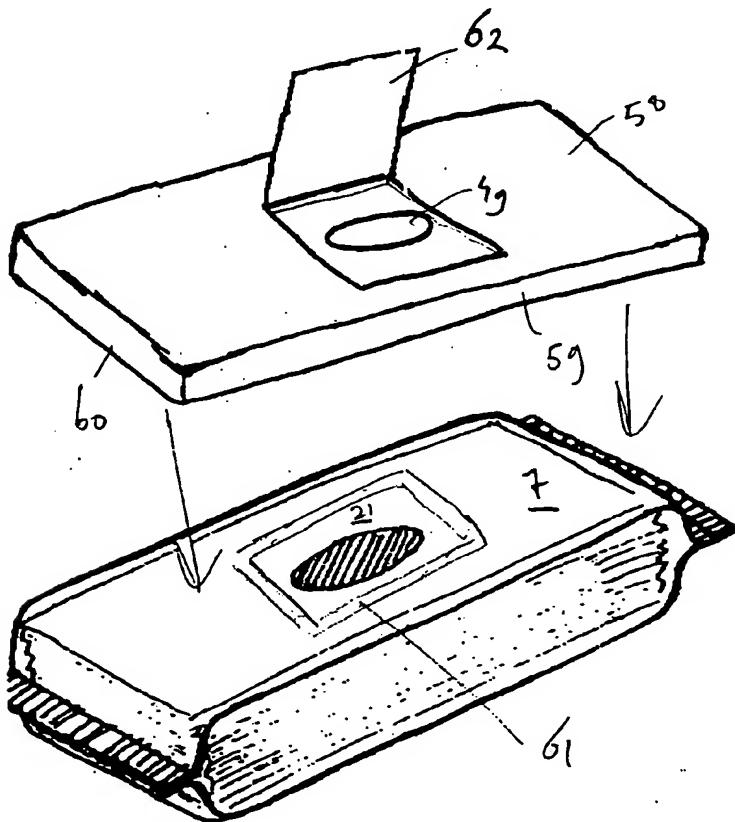


Fig. 9

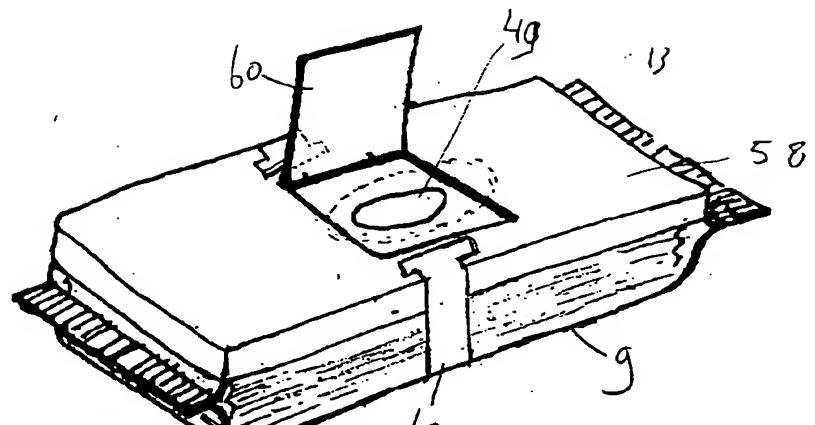


FIG 10

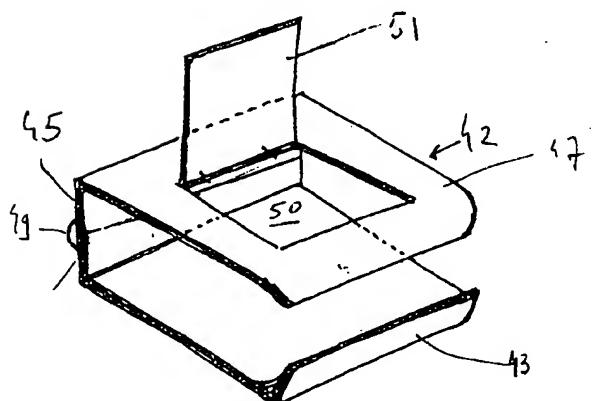


FIG 11

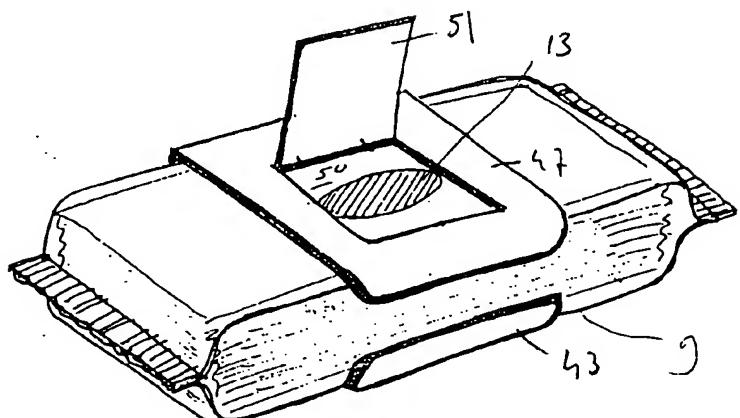


FIG 12



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | | | |
|--|---|---------------------|---|--|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.) | | |
| A | DE-U-93 17 973 (BRAEM) * the whole document *--- | 1,2,4,5, 8,13,14 | B65D83/08 | | |
| D,A | EP-A-0 251 103 (NAKAMURA) * figures 1-3 *--- | 1,2 | | | |
| A | US-A-4 185 754 (JULIUS) | | | | |
| A | US-A-3 982 659 (ROSS) | | | | |
| A | EP-A-0 331 027 (NAKAMURA) | | | | |
| A | US-A-4 526 291 (MARGULIES) | | | | |
| | | | TECHNICAL FIELDS SEARCHED (Int.Cl.) | | |
| | | | B65D | | |
| The present search report has been drawn up for all claims | | | | | |
| Place of search | Date of completion of the search | Examiner | | | |
| THE HAGUE | 15 November 1995 | Martens, L | | | |
| CATEGORY OF CITED DOCUMENTS | | | | | |
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